

SUPERIOR VENA CAVA SYNDROME is the obstruction of blood flow through the superior vena cava.

RISK FACTORS

Intrathoracic malignancy, particularly lung (non-small cell lung cancer: 50% of cases; small cell lung cancer: 25%–35% of cases) and non-Hodgkin lymphoma (diffuse large B-cell lymphoma and lymphoblastic lymphoma: 10%–15% of cases)
Thrombosis associated with catheters or pacemaker wires
Rare causes: metastatic breast cancer, Hodgkin lymphoma, or other



CAUSES/ PATHOPHYSIOLOGY

Solid tumor compression of the superior vena cava either by external compression from tumor or lymph nodes or direct invasion of the superior vena cava by thrombosis or tumor
Causes venous congestion, leading to obstruction of blood return from the upper body
Cardiac output potentially affected by poor blood return to the heart

SIGNS & SYMPTOMS

Facial swelling or head fullness (worse with bending down)
Edema in the face, chest, neck, and upper extremities
Headache
Dyspnea and cough
Distended veins in the chest
Ruddy complexion
Tachypnea; plethora
Severe or life-threatening: confusion, obtundation from cerebral edema, stridor from laryngeal edema or hemodynamic compromise



BEST PRACTICE

Prompt intervention can avoid life-threatening outcomes.

DIAGNOSTIC ASSESSMENT

Chest computed tomography with contrast
Chest x-ray
Ultrasound followed by tissue diagnosis as indicated

NURSING CONSIDERATIONS

Assess for respiratory, cardiovascular, or neurologic compromise.
Supportive care includes cardiovascular and respiratory support as needed.
Symptom management addresses dyspnea with oxygen, elevation of head of bed, and anxiety management.
Potentially treat underlying disease with radiation therapy, chemotherapy, or stenting.
Thrombus is to be treated with anticoagulants or thrombolytics.
Provide psychosocial support for symptoms and new or worsening cancer diagnosis.

ADDITIONAL RESOURCES

- Brant, J.M., & Walton, A. (2005). Superior vena cava syndrome: An education sheet for patients. *Clinical Journal of Oncology Nursing*, 9(4), 479–480. <https://doi.org/10.1188/05.CJON.479-480>
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- Kaplan, M. (2016). Structural oncology emergencies. In B. Gobel, S. Triest-Robertson, & W. Vogel (Eds.), *Advanced oncology nursing certification review and resource manual* (2nd ed., pp. 693–736). Oncology Nursing Society.
- National Cancer Institute. (2019). Superior vena cava syndrome. https://www.cancer.gov/about-cancer/treatment/side-effects/cardiopulmonary-hp-pdq#_97
- Shelton, B.K. (2018). Superior vena cava syndrome. In M. Kaplan (Ed.), *Understanding and managing oncologic emergencies: A resource for nurses* (3rd ed., pp. 561–587). Oncology Nursing Society.